

WHAT IS CLAIMED IS:

1. A clean room ceiling light fixture, comprising:
 - (a) a sealed housing having a downwardly-directed light emitting aperture;
 - (b) a heat sink fixed within and spaced from an internal wall of said housing to define a cable raceway between said heat sink and said housing;
 - (c) a plurality of light-emitting diodes mounted within said housing on said heat sink, each one of said light-emitting diodes having a lens for directing light emitted by said one of said light-emitting diodes through said aperture into said clean room; and,
 - (d) a power supply for applying drive current to said light-emitting diodes.
2. A clean room ceiling light fixture as defined in claim 1, each one of said light-emitting diodes further having a reflector for directing light emitted by said one of said light-emitting diodes through said aperture into said clean room.
3. A clean room ceiling light fixture as defined in claim 1, further comprising an anti-reflective coating on each one of said lenses.
4. A clean room ceiling light fixture as defined in claim 2, further comprising an anti-reflective coating on each one of said reflectors.
5. A clean room ceiling light fixture as defined in claim 2, wherein said reflectors are formed of a high refractive index material.

6. A clean room ceiling light fixture as defined in claim 5, wherein said high refractive index material is polycarbonate.
7. A clean room ceiling light fixture as defined in claim 2, further comprising, for each one of said lenses and an adjacent one of said reflectors, a refractive index matching compound applied between said one of said lenses and said adjacent one of said reflectors.
- 10 8. A clean room ceiling light fixture as defined in claim 6, wherein said refractive index matching compound is an elastomer.
9. A clean room ceiling light fixture as defined in claim 2, wherein said reflectors are formed of a spectrally selective filter material.
- 15 10. A clean room ceiling light fixture as defined in claim 5, wherein said spectrally selective filter material is a deep dyed polyester.
11. A clean room ceiling light fixture as defined in claim 5, wherein said spectrally selective filter material is a spectrally selective thin film filter material.
- 20 12. A clean room ceiling light fixture as defined in claim 1, further comprising, a holographic diffusion lens for uniformly distributing through said aperture said light emitted by said light-emitting diodes.
- 25 13. A clean room ceiling light fixture as defined in claim 12, wherein said holographic diffusion lens further comprises a structured surface prismatic film.
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14. A clean room ceiling light fixture as defined in claim 1, further comprising, a variable transmissivity filter for uniformly distributing through said aperture said light emitted by said light-emitting diodes.

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15. A clean room ceiling light fixture as defined in claim 1, wherein said ceiling has an H-Bar configuration and wherein said housing is sized and shaped for snap-fit engagement within said H-Bar configuration.

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16. A clean room ceiling light fixture as defined in claim 1, wherein said housing is removably magnetically attachable to said clean room ceiling.

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17. A clean room ceiling light fixture as defined in claim 1, wherein said housing is removably adhesively attachable to said clean room ceiling.

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18. A clean room ceiling light fixture as defined in claim 1, wherein said power supply further comprises an uninterruptible power supply.

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19. A clean room ceiling light fixture as defined in claim 1, wherein said power supply further comprises an in-line DC-DC converter coupled between a high voltage DC power supply and said fixture.

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20. A clean room ceiling light fixture as defined in claim 18, wherein said power supply further comprises an in-line DC-DC converter coupled between said uninterruptible power supply and said fixture.

- 21. A clean room ceiling light fixture as defined in claim 18, wherein said uninterruptible power supply is located at a remote distance from said fixture.
- 5 22. A clean room ceiling light fixture as defined in claim 20, wherein said uninterruptible power supply is located at a remote distance from said fixture.
- 10 23. A clean room ceiling light fixture as defined in claim 19, wherein said DC-DC in-line converter is located closely proximate to said fixture.
- 15 24. A clean room ceiling light fixture as defined in claim 20, wherein said DC-DC in-line converter is located closely proximate to said fixture.
- 20 25. A clean room ceiling light fixture as defined in claim 22, wherein said DC-DC in-line converter is located closely proximate to said fixture.
- 26. A clean room ceiling light fixture as defined in claim 1, wherein said power supply further comprises a regulator for regulating said drive current as a function of time.